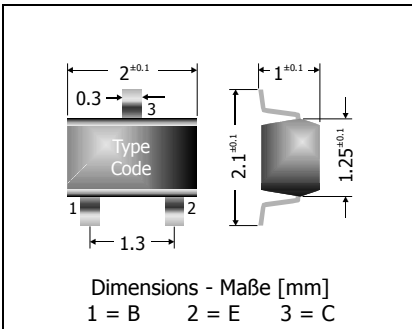


BC856W ... BC859W

PNP Surface Mount General Purpose Si-Epi-Planar Transistors
Si-Epi-Planar Universaltransistoren für die Oberflächenmontage PNP

Version 2011-07-11



Power dissipation – Verlustleistung 200 mW
 Plastic case Kunststoffgehäuse SOT-323
 Weight approx. – Gewicht ca. 0.01 g
 Plastic material has UL classification 94V-0 Gehäusematerial UL94V-0 klassifiziert
 Standard packaging taped and reeled Standard Lieferform gegurtet auf Rolle



Maximum ratings (T_A = 25°C)

Grenzwerte (T_A = 25°C)

			BC856W	BC857W	BC858W BC859W
Collector-Emitter-volt. – Kollektor-Emitter-Spannung	B open	- V _{CEO}	65 V	45 V	30 V
Collector-Base-voltage – Kollektor-Basis-Spannung	E open	- V _{CBO}	80 V	50 V	30 V
Emitter-Base-voltage – Emitter-Basis-Spannung	C open	- V _{EBO}	5 V		
Power dissipation – Verlustleistung		P _{tot}	200 mW ¹⁾		
Collector current – Kollektorstrom (dc)		- I _C	100 mA		
Peak Collector current – Kollektor-Spitzenstrom		- I _{CM}	200 mA		
Peak Base current – Basis-Spitzenstrom		- I _{BM}	200 mA		
Peak Emitter current – Emitter-Spitzenstrom		I _{EM}	200 mA		
Junction temperature – Sperrschichttemperatur		T _j	-55...+150°C		
Storage temperature – Lagerungstemperatur		T _s	-55...+150°C		

Characteristics (T_j = 25°C)

Kennwerte (T_j = 25°C)

			Min.	Typ.	Max.	
DC current gain – Kollektor-Basis-Stromverhältnis	- V _{CE} = 5 V, - I _C = 10 μA	Group A	H _{FE}	–	140	–
		Group B	h _{FE}	–	250	–
		Group C	h _{FE}	–	480	–
	- V _{CE} = 5 V, - I _C = 2 mA	Group A	H _{FE}	125	180	250
		Group B	h _{FE}	220	290	475
		Group C	h _{FE}	420	520	800
Collector-Emitter saturation voltage – Kollektor-Sättigungsspannung ²⁾						
- I _C = 10 mA, - I _B = 0.5 mA	- I _C = 100 mA, - I _B = 5 mA	- V _{CEsat}	–	75 mV	300 mV	
		- V _{CEsat}	–	250 mV	650 mV	

1 Mounted on P.C. board with 3 mm² copper pad at each terminal
 Montage auf Leiterplatte mit 3 mm² Kupferbelag (Löt-pad) an jedem Anschluss
 2 Tested with pulses t_p = 300 μs, duty cycle ≤ 2% – Gemessen mit Impulsen t_p = 300 μs, Schaltverhältnis ≤ 2%

Characteristics (T_j = 25°C)
Kennwerte (T_j = 25°C)

		Min.	Typ.	Max.
Base-Emitter saturation voltage – Basis-Sättigungsspannung ²⁾				
- I _C = 10 mA, - I _B = 0.5 mA	- V _{BEsat}	–	700 mV	–
- I _C = 100 mA, - I _B = 5 mA	- V _{BEsat}	–	850 mV	–
Base-Emitter-voltage – Basis-Emitter-Spannung ²⁾				
- V _{CE} = 5 V, - I _C = 2 mA	- V _{BE}	600 mV	650 mV	750 mV
- V _{CE} = 5 V, - I _C = 10 mA	- V _{BE}	–	–	820 mV
Collector-Base cutoff current – Kollektor-Basis-Reststrom				
- V _{CB} = 30 V, (E open)	- I _{CBO}	–	–	15 nA
- V _{CE} = 30 V, T _j = 125°C, (E open)	- I _{CBO}	–	–	5 µA
Emitter-Base cutoff current				
- V _{EB} = 5 V, (C open)	- I _{EBO}	–	–	100 nA
Gain-Bandwidth Product – Transitfrequenz				
- V _{CE} = 5 V, - I _C = 10 mA, f = 100 MHz	f _T	100 MHz	–	–
Collector-Base Capacitance – Kollektor-Basis-Kapazität				
- V _{CB} = 10 V, I _E = i _e = 0, f = 1 MHz	C _{CB0}	–	–	4.5 pF
Emitter-Base Capacitance – Emitter-Basis-Kapazität				
- V _{EB} = 0.5 V, I _C = i _c = 0, f = 1 MHz	C _{EBO}	–	10 pF	15 pF
Noise figure – Rauschzahl				
- V _{CE} = 5 V, - I _C = 200 µA, R _G = 2 kΩ	BC856W ... BC858W BC859W	F F	– 1 dB	10 dB 4 dB
Thermal resistance junction to ambient air Wärmewiderstand Sperrschicht – umgebende Luft	R _{thA}	< 620 K/W ¹⁾		
Recommended complementary NPN transistors Empfohlene komplementäre NPN-Transistoren	BC846W ... BC849W			
Marking of available current gain groups per type Stempelung der lieferbare Stromverstärkungs- gruppen pro Typ	BC856AW = 3A BC857AW = 3E BC858AW = 3J	BC856BW = 3B BC857BW = 3F BC858BW = 3K BC859BW = 4B	BC857CW = 3G BC858CW = 3L BC859CW = 4C	

²⁾ Tested with pulses t_p = 300 µs, duty cycle ≤ 2% – Gemessen mit Impulsen t_p = 300 µs, Schaltverhältnis ≤ 2%

¹⁾ Mounted on P.C. board with 3 mm² copper pad at each terminal
Montage auf Leiterplatte mit 3 mm² Kupferbelag (Löt-pad) an jedem Anschluss